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REMARKS

This Amendment is in response to the Office Action dated October 31, 2005 ("OA"). In the Office Action, claims 1-25 were rejected under 35 USC §§ 112 and 102. By this Amendment, claim 2 is amended. Currently pending claims 1-25 are believed allowable, with claims 1, 6, 9, 18 and 21 being independent claims.

CLAIM REJECTIONS UNDER 35 USC §112:

Claims 1, 6, 9, 18 and 21

Claims 1, 6, 9, 18 and 21 were rejected under 35 USC \$112, second paragraph, as allegedly unclear as the purpose of the "binding expression". OA, pg. 2.

The second paragraph of 35 USC \$112 requires, "The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." The test for definiteness under 35 U.S.C. 112, second paragraph, is whether "those skilled in the art would understand what is claimed when the claim is read in light of the specification." Orthokinetics, Inc. v. Safety Travel Chairs, Inc., 806 F.2d 1565, 1576, 1 USPQ2d 1081, 1088 (Fed. Cir. 1986). If the language used by applicant satisfies the statutory requirements of 35 U.S.C. \$112, second paragraph, but the examiner merely wants the applicant to improve the clarity or precision of the language used, the claim must not be rejected under 35 U.S.C. \$112, second paragraph, rather, the examiner should suggest improved language to the applicant. MPEP 2173.02.

Although the terms of a claim may appear to be definite, inconsistency with the specification disclosure or prior art teachings may make an otherwise definite claim take on an unreasonable degree of uncertainty. In re Cohn, 438 F.2d 989, 169 USPQ 95 (CCPA 1971). The court further found that the description, definitions and examples set

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forth in the specification relating were inherently inconsistent and rendered the claim indefinite. MPEP 2173.03

As the basis for rejecting claims 1, 6, 9, 19 and 21, the Examiner states, "The understood purpose of binding expressions, e.g. in remote method invocation, is to provide a process or application with a resource." OA, pg. 2. Furthermore, the Examiner appears to argue that a binding expression being itself bound "conflicts with the accepted methods of binding." The Examiner suggests that the claims be amended to clearly point out how a binding expression is itself to be bound, rather than as an intermediary to bind a process, task, or application to a resource.

The Applicants respectfully submit that the specification of the Application clearly state what is meant by a binding expression:

The application 104 includes a binding module 118 which provides the application 104 the required data from the data sources 106 and 108. It is contemplated that the application 104, including the binding module 118, may be specific to the computer environment and task at hand, and may therefore be provided by a programmer. Within the application 104 is a binding expression 120 configured to contain data from one of the data sources 106 and 108. In other words, the binding expression 120 acts as a placeholder for data from a current data source of interest. The binding expression 120 contains a data specification 122 calling for, for example, a data source capable of providing the position of person 122.

In order for the binding expression 120 to provide data from a particular data source, it must be bound to the data source. While a binding expression 120 is bound to a given data source, all requests for the current value of the binding expression 120 are satisfied by obtaining a value from that data source, and each new value generated by the data source is reported as a new value generated by the binding expression 120. Thus, returning to the example above, when the person 112 is at position P1, the binding express 120 is bound to data source 106 and receives data 114 from data source 106. If, at a later time, the person 112 moves to position P2, the binding expression 102 is rebound to data source 108 and receives data 116 from data source 108. App., pg. 6, ln. 9-30.

Similarly, claim 1 recites, in part, "means for rebinding the binding expression to the new network resource." Thus, use of the term "binding expression" in the claims is consistent with the specification. Contrary to the Examiner's assertion, the binding

expression is not recited to be method of binding, but rather an expression bound to a resource.

The Applicants respectfully submit that no evidence is provided in the Office Action establishing that the "understood purpose of binding expressions" is to provide a process or application with a resource.

OA, pg. 2. Similarly, no evidence is provided that a binding expression being itself bound "conflicts with the accepted methods of binding." OA, pg. 2.

Furthermore, the Applicants disagree with the Examiner's underlying assumption that there is an accepted or understood meaning for binding expression. The following examples illustrate some distinct ways in which the term "binding expression" is used:

- The standard Java class java.rmi.Naming (which deals with aspects of remote method invocation) has methods named "bind", "rebind", and "unbind" through which a Java programmer can manipulate the binding between a name and a remote object.
- In the reference manual for the programming language Scheme (the version at http://sicp.ai.mit.edu/Fall-2003/manuals/scheme-7.5.5/doc/scheme_2.html#SEC11 is dated March 17, 2000), the term "binding expression" is used for a programming language construct whose evaluation binds a name to a value.
- There are similar programming-language constructs, also called "binding expressions", in the Document Style Semantics and Specification Language (http://www.cs.berkeley.edu/~wilensky/CS294/dsssl/html/h3-22.htm#AEN1398) and the Bogor Software Model Checking Framework (http://bogor.projects.cis.ksu.edu/manual/ch02s17.html#subsec:letexp).
- Microsoft's .Net has the notion of a "data binding expression". According to http://msdn.microsoft.com/library/default.asp?url=/library/en-us/cpgenref/html/cpconDatabindingExpressionSyntax.asp), "Databinding expressions create bindings between any property on an

ASP.NET page, including a server control property, and a data source when the DataBind method is called on the page."

- Section 7.5 of the W3C XForms specification
 (http://www.w3.org/TR/xforms/) states, "A binding expression is an
 XPath PathExpr used in binding a model item property to one or
 more instance nodes, or to bind a form control to instance data,
 or to specify the node or node set for operation by an action." In
 other words, a binding expression establishes a correspondence
 between one part of an XForms XML specification (e.g., the logical
 model of the data contained in the form) and another part (e.g.,
 the GUI element collecting that data).
- Sun uses the terms "method binding expression" and "value binding expression" in a related way in JavaServer Faces, or JSF.
 According to
 http://java.sun.com/developer/EJTechTips/2004/tt0923.html#1, the syntax of a binding expression is different, but its purpose is to associate a data model (Java bean) with GUI elements of a web page.
- A fake news page on the Australian Broadcasting Corporation's web site (http://www.abc.net.au/cnnnn/news/s968502.htm) speaks of "National Non-Legally Binding Expression of Regret Day."

The Applicants therefore traverse the rejection of claims 1, 6, 9, 18 and 21 under 35 USC \$112. The Examiner has not provided any evidence in the record of the "understood purpose of binding expressions." Moreover, there is no conflict with between the term "binding expression" as used in the claims and the specification of the present invention. For at least these reasons, the rejection of claims 1, 6, 9, 19 and 21 should be withdrawn.

Claim 2

Claim 2 was rejected under 35 USC \$112 as allegedly indefinite due to the term "previously received data". OA, pg. 2. Claim is amended to replace this term with "received data". Claim 2 is believed to overcome the rejection under 35 USC \$112.

CLAIM REJECTIONS UNDER 35 USC \$102:

Claims 1-8, 12 and 17-19 were rejected under 35 USC \$102(e) as anticipated by U.S. Patent Application Publication No. US2002/0087665 applied by Marshall et al. (hereinafter "Marshall"). OA, pg. 3. To anticipate a claim under 35 USC \$102, a reference must teach every element of the claim. MPEP 2131.

Before addressing the specific claim rejections, it may be helpful to review the subject matter of the present Application and that of Marshall. The present invention relates to rebinding a binding expression to an appropriate data source in accordance with a particular data specification. App., pg. 1, ln. 3-6. Generally, data sources are capable of providing data used to perform one or more tasks or computations. App., pg. 7, ln. 28-30 and Fig. 1. A binding expression is configured to contain data from data sources. App, pg. 6, ln. 13-19. Thus, when a binding expression is bound to a given data source, all requests for the current value of the binding expression are satisfied by obtaining a value from that data source, and each new value generated by the data source is reported as a new value generated by the binding expression. App., pg. 6, ln. 21-26.

A data specification describes the data required by the binding expression. App., pg. 6, ln. 31-32. If the data specification changes, the binding expression is rebound to another data source satisfying the new data specification. App., pg. 6, ln. 32 - pg. 7, ln. 8. Alternatively, if a data source can no longer provide the data required by the data specification, the binding expression is also rebound. App., pg. 8, ln. 6-13.

In one embodiment of the invention, rebinding of a binding expression is initiated by first canceling a subscription for update notification of the currently bound data source. App., pg. 9, ln. 15-17. Once a new data source is selected, a port manager provides an access port (file handle, socket, etc.) to the data source. App., pg. 10, ln. 25-27. A binding module then subscribes to notifications of new advertisements from the newly selected data source. App., pg. 11, ln. 4-6.

Despite a small overlap in terminology, the Marshall is fundamentally unrelated to the pending Application. Marshall is concerned with managing names of resources, and dependencies among resources, as well as with storing resources within the system and ensuring, before a resource is deployed, that all the resources on which it depends are deployed. Marshall, ¶¶ 19-21. In contrast, the present Application is concerned with ensuring that rebinding expressions remain bound to data sources whose properties meet the current requirements, even if the properties or the requirements change several times a minute. App., pg. 1, ln. 3-6.

Marshall has a primitive notion of "resolving" a resource ID by one-time substitution of alias resource IDs. Marshall, ¶ 57. By contrast, the notion of resolving a data specification in the present Application involves searching for suitable data sources, selecting one of them according to an application-specific algorithm (in the binding module), and continually tracking both the data specification and the properties of the data source so that the binding expression containing the data specification remains bound to a suitable data source even as the data specification and the properties of data sources fluctuate.

Most importantly, the response by Marshall to a resource ceasing to exist, as illustrated in Fig. 3, is confined to providing "out of service" notifications according to resource dependencies. The response of the present Application to a data source becoming unsuitable is to automatically repair the damage by finding and rebinding to another data source. App., pg. 15, ln. 10-14.

With these key differences in mind, the Λ pplicants now address the claim rejections.

Claim 1

Claim I recites, in part, "A system for rebinding a binding expression to a new network resource, wherein a data specification describes a resource required by the binding expression." In rejecting claim 1, the Examiner argues that Marshall teaches a system for rebinding a binding expression to a new network resource, wherein a data specification describes a resource required by the binding

expression. OA, pg. 3. The Applicants respectfully disagree with the Examiner's interpretation of Marshall.

Marshall appears to relate to a method and system for enabling resources to be defined, tracked, verified, resolved and managed statically and dynamically wherein resource management is performed explicitly and consistently throughout the system regardless of resource type. Marshall, I l. Marshall briefly mentions dynamic binding of resources using resource ID, version ID and other identifiers independent of their physical location in the context of preventing clashes and inconsistencies between resources. Marshall, 99 20-22. Importantly, however, Marshall does not mention or suggest rebinding a binding expression to a new network resource, wherein a data specification describes a resource required by the binding expression.

In support of the Examiner's position, the Office Action offers paragraphs 18 and 40 of Marshall as evidence of teaching rebinding a binding expression to a new network resource, wherein a data specification describes a resource required by the binding expression. Turning to the specific paragraphs cited in the Office Action, paragraph 18 of Marshall states:

Another embodiment of the invention involves enabling software to connect to requested (or required) resources regardless of location by resolving an abstract resource ID, type ID, and version ID. Other identifiers may also be used. When several interchangeable instances of a particular resource are available, the number of instances, and the algorithm for selecting among them when they are requested may be transparent to the requesting entity. The type of algorithm may vary by resource type, without the necessary knowledge of either the requesting entity of the requested resource. When appropriate, the algorithm for selecting among the instances may take into account the management state (e.g., availability, business, etc.) of the different instances. For example, this may be used to transparently provide load balancing, fault-tolerant redundancy, etc. Marshall, ¶ 18.

As discussed above, this paragraph lacks teaching or suggestion of a binding expression, much less rebinding the binding expression to a new network resource. Paragraph 40 of Marshall states:

Another embodiment of the present invention relates to resource identification. Each resource may have some type of identifier which may be used to uniquely distinguish it from other resources.

For example, a method of scoping may be applied to resource identification so that a resource identifier may be considered unique within its scope. In effect, the scope of the resource becomes part of the resource's identifier. This may be accomplished through naming techniques. For example, a variety of scopes may be created to support different capabilities. Conflicts may be prevented among identifiers associated with different customers (or other entities or factors) by defining a separate scope for their resource identifiers. For example, a customer's company (or other entity or identifier) may appear as a prefix (or other supplement) to their resource identifiers. Other variations may be implemented. Marshall, ¶ 40.

Again, the Applicants find no teaching or suggestion in the above paragraph of rebinding the binding expression to a new network resource.

Furthermore, the resource identification described in Marshall is vastly different from the recited data specification of claim 1. While paragraph 40 of Marshall relates to resource identification to uniquely distinguish one resource from other resources, the data specification of claim 1 "describes a resource required by the binding expression." Thus, the Applicants respectfully submit that Marshall does not teach or suggest a data specification describes a resource required by the binding expression, as recited in claim 1.

Claim 1 further recites, "a data resolution service configured to discover network resources that satisfy the data specification." The Examiner argues that this claim element can be found in Marshall. In support of the Examiner's position, the Office Action cites paragraphs 18, 22, and 57 of Marshall.

Paragraph 18 of Marshall, repeated above, mentions that an algorithm may be used to select from among several available interchangeable instances of a particular resource. However, this paragraph does not discuss a process of discovering network resources that satisfy a data specification. Thus, the Applicants respectfully submit that paragraph 18 of Marshall does not provide a requisite teaching to anticipate the above-quoted element of claim 1.

Paragraph 22 discusses various resource identifiers, but does not teach or suggest a data resolution service configured to discover network resources that satisfy the data specification. Paragraph 22 of Marshall states:

In particular, without a system to centrally manage resource identifiers created by different service providers, third parties, and other entities, a service provider may be required to invest large amounts of effort and finances to manually manage resource identifiers. The dynamic binding of resources via resource ID, version ID and other identifiers may enable resources to be upgraded in the network without effecting the entities which use the resources. This dynamic binding, combined with the resource resolution mechanism, may allow new instances of a particular type of resource to be dynamically added to a network, without requiring modifications or re-configuration in the services which use the resources. Therefore, downtime which would otherwise occur with upgrades and/or modifications to resources in a network may be reduced or eliminated. Marshall, ¶ 22.

Similarly, paragraph 57 of Marshall discusses benefits of employing a resource ID and version ID to retrieve the requested resource, but fails to teach or suggest a data resolution service configured to discover network resources that satisfy the data specification.

Thus, the Applicants respectfully submit that paragraphs 18, 22 and 57 of Marshall does not provide a requisite teaching to anticipate the above-quoted element of claim 1.

Claim 1 also recites, "means for rebinding the binding expression to the new network resource when the data specification changes." The Examiner argues that this claim element can be found in Marshall. In support of the Examiner's position, the Office Action cites paragraphs 22, 37 and 46 of Marshall.

The Applicants respectfully submit that paragraph 22 of Marshall, repeated above, does not mention or suggest rebinding a binding expression to a new network resource when a data specification changes.

Paragraph 37 of Marshall states:

Resource management may be used to define, track, verify, resolve and manage resources both statically and dynamically. Other operations may also be performed. Static resource management may encompass the management of resources which takes place up to and including deployment to the network. An example of static resource management may involve managing whether or not a particular resource exists within a particular context. Dynamic resource management may encompass the management of resources which may take place after deployment to the network. Resource management may further involve providing a consistent management strategy across different types of resources. Marshall, ¶ 37.

It is noted that operations of the resource management described in paragraph 37 of Marshall do not include rebinding a binding expression to a new network resource when a data specification changes.

Paragraph 46 of Marshall states:

FIG. 2 illustrates an example of a resource management system, according to an embodiment of the present invention. The resource manager of the present invention may serve to tie together various aspects of static resource management and dynamic resource management. For example, static resource management may involve allocation, deployment, etc. while dynamic resource management may involve event/state correlation. When a new resource is defined, the resource's relationship to other resources may be defined in terms of predefined rules, definitions or other criteria. Thus, varying relationships among and between resources may be established, thereby creating a network of resource dependency definitions and/or rules. Marshall, ¶ 46.

Similarly, the Applicants respectfully submit that the resource management system described in paragraph 46 of Marshall does not teach or suggest rebinding a binding expression to a new network resource when a data specification changes.

For at least these reasons, the Applicants respectfully submit that claim 1 is not anticipated by the teachings or suggestions of Marshall. Thus, allowance of claim 1 is earnestly requested.

Claims 2-5

Claims 2-5 are dependent on and further limit claim 1. Since claim 1 is believed allowable for the reasons discussed above, claims 2-5 are also believed allowable for at least the same reasons as claim 1.

Claim 6

Claim 6 appears to be rejected for substantially the same reasoning as claim 1. OA, pg. 4. The Applicants therefore respectfully refer the Examiner to the discussion of claim 1 for the reasons why claim 6 is believed allowable. For at least these reasons, allowance of claim 6 is earnestly requested.

Claims 7 and 8

Claims 7 and 8 are dependent on and further limit claim 6. Since claim 6 is believed allowable for the reasons discussed above, claims 7

and 8 are also believed allowable for at least the same reasons as claim 6.

Claim 9

Claim 9 recites, in part, "A method for rebinding a binding expression to an appropriate network resource in a network, the binding expression being associated with a data specification describing the data required at the binding expression." In rejecting claim 9, the Examiner argues that Marshall teaches a method for rebinding a binding expression to an appropriate network resource in a network, the binding expression being associated with a data specification describing the data required at the binding expression. OA, pg. 4. The Applicants respectfully disagree with the Examiner's interpretation of Marshall.

The Office Action offers paragraphs 18 and 40 of Marshall as evidence that Marshall anticipates the above-cited limitations of claim 9. As discussed in detail for claim 1, paragraph 18 of Marshall lacks teaching or suggestion of a binding expression, much less rebinding the binding expression to an appropriate network resource in a network. In addition, the Applicants find no teaching or suggestion in paragraph 40 of rebinding the binding expression to a new network resource (please see claim 1 discussion above for more detail).

Claim 9 further recites, "obtaining a list indicating potential appropriate network resources." The Examiner argues that this claim element can be found in Marshall. In support of the Examiner's position, the Office Action cites paragraphs 18, 22, and 57 of Marshall.

Paragraph 18 of Marshall, repeated above, mentions that an algorithm may be used to select from among several available interchangeable instances of a particular resource. However, this paragraph does not discuss a process of obtaining a list indicating potential appropriate network resources. Thus, the Applicants respectfully submit that paragraph 18 of Marshall does not provide a requisite teaching to anticipate the above-quoted element of claim 9.

Paragraph 22 of Marshall discusses various resource identifiers, but does not teach or suggest obtaining a list indicating potential appropriate network resources. Similarly, paragraph 57 of Marshall

discusses benefits of employing a resource ID and version ID to retrieve the requested resource, but fails to teach or suggest obtaining a list indicating potential appropriate network resources.

Thus, the Applicants respectfully submit that paragraphs 18, 22 and 57 of Marshall does not provide a requisite teaching to anticipate the above-quoted element of claim 9.

Claim 9 further recites, "selecting an appropriate network resource from the list." Paragraphs 18, 22, and 57 of Marshall were also offered by the Office Action as teaching this claim element. The Applicants respectfully disagree with the Examiner's interpretation of Marshall.

Claim 9 also recites, "rebinding the binding expression to the appropriate network resource." The Examiner argues that this claim element can be found in Marshall. In support of the Examiner's position, the Office Action cites paragraphs 22, 37 and 46 of Marshall.

The Applicants respectfully submit that paragraph 22 of Marshall, repeated above, does not mention or suggest rebinding a binding expression to an appropriate network resource. Operations of the resource management described in paragraph 37 of Marshall do not include rebinding a binding expression to an appropriate network resource. Similarly, the Applicants respectfully submit that the resource management system described in paragraph 46 of Marshall does not teach or suggest rebinding a binding expression to an appropriate network resource.

For at least these reasons, the Applicants respectfully submit that claim 9 is not anticipated by the teachings or suggestions of Marshall. Thus, allowance of claim 9 is earnestly requested.

Claims 10-17

Claims 10-17 are dependent on and further limit claim 9. Since claim 9 is believed allowable for the reasons discussed above, claims 10-17 are also believed allowable for at least the same reasons as claim 9.

Claim 18

Claim 18 recites, in part, "A system for rebinding a binding expression to an appropriate network resource in a network, the binding expression being associated with a data specification describing the data required at the binding expression." In rejecting claim 18, the Examiner argues that Marshall teaches a method for rebinding a binding expression to an appropriate network resource in a network, the binding expression being associated with a data specification describing the data required at the binding expression. OA, pg. 6. The Applicants respectfully disagree with the Examiner's interpretation of Marshall.

The Office Action offers paragraphs 18 and 40 of Marshall as evidence that Marshall teaches a system for rebinding a binding expression to an appropriate network resource in a network, the binding expression being associated with a data specification describing the data required at the binding expression. The Applicants respectfully submit that paragraph 18 of Marshall lacks teaching or suggestion of a binding expression, much less rebinding the binding expression to an appropriate network resource in a network. In addition, the Applicants find no teaching or suggestion in paragraph 40 of rebinding the binding expression to a new network resource (please see claim 1 discussion above for more detail).

Claim 18 further recites, "a data resolution service configured to provide a list indicating potential appropriate network resources."

The Examiner argues that this claim element can be found in Marshall.

In support of the Examiner's position, the Office Action cites paragraphs 18, 22, and 57 of Marshall.

Paragraph 18 of Marshall, repeated above, mentions that an algorithm may be used to select from among several available interchangeable instances of a particular resource. However, this paragraph does not discuss a data resolution service configured to provide a list indicating potential appropriate network resources. Thus, the Applicants respectfully submit that paragraph 18 of Marshall does not provide a requisite teaching to anticipate the above-quoted element of claim 18.

Paragraph 22 of Marshall discusses various resource identifiers, but does not teach or suggest a data resolution service configured to provide a list indicating potential appropriate network resources. Similarly, paragraph 57 of Marshall discusses benefits of employing a resource ID and version ID to retrieve the requested resource, but fails to teach or suggest a data resolution service configured to provide a list indicating potential appropriate network resources.

Thus, the Applicants respectfully submit that paragraphs 18, 22 and 57 of Marshall does not provide a requisite teaching to anticipate the above-quoted element of claim 18.

Claim 18 further recites, "a port manager configured to provide an access port to the appropriate network resource such that the binding expression rebinds to the appropriate network resource via the access port." Paragraphs 22, 37, 46 and 57 of Marshall were offered by the Office Action as teaching this claim element. The Applicants respectfully disagree with the Examiner's interpretation of Marshall.

The Applicants respectfully submit that paragraphs 22 and 57 of Marshall, repeated above, does not mention or suggest rebinding a binding expression to an appropriate network resource. Operations of the resource management described in paragraph 37 of Marshall do not include rebinding a binding expression to an appropriate network resource. Similarly, the Applicants respectfully submit that the resource management system described in paragraph 46 of Marshall does not teach or suggest rebinding a binding expression to an appropriate network resource.

For at least these reasons, the Applicants respectfully submit that claim 18 is not anticipated by the teachings or suggestions of Marshall. Thus, allowance of claim 18 is earnestly requested.

Claims 19 and 20

Claims 19 and 20 are dependent on and further limit claim 18. Since claim 18 is believed allowable for the reasons discussed above, claims 19 and 20 are also believed allowable for at least the same reasons as claim 18.

Claim 21

Claim 21 appears to be rejected for substantially the same reasoning as claim 9. OA, pg. 7. The Applicants therefore respectfully refer the Examiner to the discussion of claim 9 for the reasons why claim 21 is believed allowable. For at least these reasons, allowance of claim 21 is earnestly requested.

Claims 22-25

Claims 22-25 are dependent on and further limit claim 21. Since claim 21 is believed allowable for the reasons discussed above, claims 22-25 are also believed allowable for at least the same reasons as claim 21.

CONCLUSION

In view of the forgoing remarks, it is respectfully submitted that this case is now in condition for allowance and such action is respectfully requested. If any points remain at issue that the Examiner feels could best be resolved by a telephone interview, the Examiner is urged to contact the attorney below.

No fee is believed due with this Amendment, however, should a fee be required please charge Deposit Account 50-0510. Should any extensions of time be required, please consider this a petition thereof and charge Deposit Account 50-0510 the required fee.

Respectfully submitted,

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